Animal and Plant Health Agency
Access to Information Team
Woodham Lane
New Haw
Addlestone
Surrey
KT15 3NB

www.gov.uk/apha

Ms Buckley
request-1066927-5f7a3d3c@whatdotheyknow.com

Our ref: FOI2024/00566

2 February 2024

Dear Ms Buckley,

REQUEST FOR INFORMATION: Brucellosis testing sensitivity - specificity

Thank you for your request for information of 6th January about Brucellosis testing sensitivity - specificity. APHA have handled your request under the Freedom of Information Act 2000 (FOIA).

Your information request and our response are set out below.

“Please can you tell me what the sensitivity and specificity (AND 95% confidence interval) of the individual tests below are for the brucellosis tests used in the UK cattle Brucellosis surveillance scheme:

1. iELISA

2. SAT

3. CFT

4. cELISA

AND

The overall sensitivity/specificity (+ 95% confidence interval) when conducting the serial testing approach that is employed in this surveillance scheme.”

Section 21 - Information accessible by other means

The information that you have requested is publicly available as identified below. As the information is reasonably accessible to you by other means, section 21 of the FOIA exempts APHA from providing the information in this response to your request.

Under the FOIA APHA can rely on the application of the exemption.

Publicly available information:

The evaluation of the diagnostic properties of the English bovine brucellosis surveillance system is very thoroughly described in an article published by APHA in 2020 – Foddai et al 2020.

For the Brucella milk iELISA, diagnostic estimates were taken from Nielsen et al 1996 and Vanzini et al 2001.

For Brucella serum iELISA, diagnostic estimates were taken from McGiven et al 2003, McGiven et al 2008a, McGiven et al 2008b and Thomson et al 2009.

For Brucella CFT the diagnostic estimates were taken from McGiven et al 2003.

The SAT (Brucella abortus antigen) is not used in the surveillance scheme. Neither is the cELISA.

References

Foddai et al., 2020
A. Foddai, T. Floyd, J.McGiven, K. Grace, S. Evans
Evaluation of the English bovine brucellosis surveillance system considering probability of disease introduction and non-random sampling
Prev. Vet. Med. 176 (2020) https://doi.org/10.1016/j.prevetmed.2020.104927

Nielsen et al., 1996
K. Nielsen, P. Smith, D. Gall, B. Perez, C. Cosma, P. Mueller, J. Trottier, G. Cote, L. Boag, J. Bosse
Development and validation of an indirect enzyme immunoassay for detection of antibody to Brucella abortus in milk
Vet. Microbiol., 52 (1996) pp.165-73

Vanzini et al., 2001
V.R. Vanzini, N.P. Aguirre, B.S. Valentini, S. Torioni de Echaide, C.I. Lugaresi, M.D. Marchesino, K. Nielsen
Comparison of an indirect ELISA with the Brucella abortus milk ring test for detection of antibodies to Brucella abortus in bulk milk samples
Vet. Microbiol., 82 (2001), pp. 55-60

McGiven et al., 2003
J.A. McGiven, J.D. Tucker, L. Perrett, J.A. Stack, S.D. Brew, A.P. MacMillan
Validation of FPA and cELISA for the detection of antibodies to Brucella abortus in cattle sera and comparison to SAT, CFT, and iELISA
J. Immunol. Methods, 278 (2003), pp. 171-178

McGiven et al., 2008a
J. McGiven, L. Hendry, D. Brown, J. Stack, L. Perrett, I. Mawhinney
The improved specificity of bovine brucellosis testing in Great Britain
Res. Vet. Sci., 84 (2008), pp. 38-40

McGiven et al., 2008b
J.A. McGiven, J. Sawyer, L.L. Perrett, S.D. Brew, N.J. Commander, A. Fisher, S. McLarnon, K. Harper, J.A. Stack

A new homogeneous assay for high throughput serological diagnosis of brucellosis in ruminants
J. Immunol. Methods, 337 (2008), pp. 7-15

Thomson et al., 2009
I. Thomson, J. McGiven, J. Sawyer, R. Thirlwall, N. Commander, J. Stack
Competitive electrochemilunescence wash and no-wash immunoassays for detection of serum antibodies to smooth Brucella strains
Clin. Vaccine Immunol., 16 (2009), pp. 765-771

Information disclosed in response to this FOI request is releasable to the public. In keeping with the spirit and effect of the FOIA and the government's Transparency Agenda, this letter and the information disclosed to you may be placed on GOV.UK, together with any related information that will provide a key to its wider context. No information identifying you will be placed on the GOV.UK website.

An Annex is attached which explains the copyright that applies to the information being released to you and contact details should you be unhappy with the service you have received.

If you have any queries about this letter, please contact the Access to Information Team at the email address below or postal address at the top of this letter.

Yours sincerely

Access to Information Team
enquiries@apha.gov.uk

Annex

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Complaints

If you are unhappy with the service you have received in relation to your request, you may make a complaint or appeal against our decision under section 17(7) of the FOIA within 40 working days of the date of this letter. Please write to the Access to Information Team at the address at the top of this letter or email enquiries@apha.gov.uk and the team will arrange for an internal review of your case.

If you are not content with the outcome of the internal review, section 50 of the FOIA gives you the right to apply directly to the Information Commissioner's Office (ICO) for a decision. Please note that generally the ICO cannot make a decision unless you have first exhausted APHA's own complaints procedure.

The ICO can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF

Please click here for further contact details.